

43(88%) of the students wanted these topics covered during medical school. A recent survey of 56 UK paediatricians and general practitioners rated the importance of undergraduate knowledge of normal feeding 3.9/5 and ability to engage in health promotion 3.8/5.

**Conclusions** This study demonstrates a lack of confidence and competence among medical students to provide advice about childhood nutrition, despite clinicians considering the topic essential undergraduate knowledge. Concerted efforts must be made to improve the quality of nutrition and health promotion advice to parents and undergraduate training provides an ideal opportunity to develop these skills.

### G363(P) INFECTIOUS COMPLICATIONS IN BILIARY ATRESIA; A SINGLE CENTRE EXPERIENCE

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**Objectives** To evaluate incidence and timing of cholangitis and spontaneous bacterial peritonitis (SBP) in Biliary Atresia (BA), after Kasai Porto-enterostomy (KP), prior to liver transplantation (LT).

**Methods** A single-centre retrospective analysis, comprising 78 patients (36M:42F) who underwent KP between 2008–2010.

**Results** Cholangitis followed in 38/78 (48%) patients; median number of episodes 2 (range: 1, 5). Median age for first episode was 5.6 months (2, 72.5). Six patients showed dilated biliary radicles on ultrasound. Organisms were isolated from blood cultures in six patients; E-coli (n = 2), Staphylococcus Aureus, Klebsiella, Streptococcus Pneumonia and Pseudomonas. 27/38 (71%) cholangitic patients underwent LT, 10 are alive with their native liver and one died. Ascites developed in 29/78 (37%) patients, at median age 6.5 months (3.1, 66). Ascitic taps were performed in 41% (12/29), due to respiratory distress with fever (5/12) or without fever (7/12) at median age 7.4 months (3.2, 22.8). 16/17 patients that did not have ascitic taps underwent LT at a median age 17.2 months (7.4, 79.7) and one died whilst listed for LT. Timing of tap was at the onset of ascites in six patients and at a median time of 2 months (0.1, 4.6) from onset of ascites in the remaining six patients. Four patients fulfilled criteria for SBP diagnosis; 3 culture-negative (wcc >250 mm<sup>3</sup>), one bacteri-ascites (wcc <250 mm<sup>3</sup>; gram-positive cocci, gram-negative rods). No culture-positive SBP was identified. One culture-negative SBP revealed Streptococcus Pneumoniae in blood cultures. Five patients that underwent ascitic taps previously had cholangitis. Antibiotics were already commenced in 8/12 patients pre-tap. Raised plasma wcc (>17 mm<sup>3</sup>) was identified in SBP (3/4) and non-SBP (3/8) patients. All SBP patients underwent LT at a median age 10.5 months (7.1, 16.1). Non-SBP patients underwent LT (n = 4), are alive with native liver (n = 1) or died (n = 3; all listed for LT).

**Conclusion** Cholangitis and SBP occurred in 48% and 5% of BA patients respectively; cholangitis episodes presented earlier. Few cases revealed positive bacterial cultures. Definition of paediatric SBP needs to account for pre-culture antibiotic use. New molecular techniques should be sought to aid diagnosis. LT is a successful outcome for cholangitis, SBP and non-SBP ascites.

### G364(P) MANAGEMENT OF GASTROESOPHAGEAL REFLUX IN INFANTS: CURRENT PRACTICE OF DIAGNOSIS AND TREATMENT IN A UK DISTRICT GENERAL HOSPITAL

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**Objectives and study** According to current ESPGHAN and NASPGHAN guidelines, gastroesophageal reflux (GER) is defined as the passage of gastric contents into the oesophagus with or without regurgitation and vomiting. GER is considered to be physiological in the majority of young infants under the age of 12 months. Typically, episodes of GER in healthy individuals last <3 min, occur in the postprandial period, and cause few or no symptoms. In contrast, gastroesophageal reflux disease (GERD) is present when the reflux of gastric contents causes troublesome symptoms and/or complications such as faltering growth, recurrent pneumonias, apnoea, dystonic head posturing. Limited data is currently available on the adherence of healthcare professionals to existing guidelines in daily practice, however some reports highlight the risk of over-diagnosing GERD and the inadequate use of treatments, such as acid suppression.

**Aim of the study** The aim of this study was to assess current clinical practice and adherence to ESPGHAN guidelines regarding the diagnosis and management of infants presenting with symptoms of GER/GERD.

**Methods** Medical records of 60 patients treated in an inpatient or outpatient setting, age 1 day to 1 year and with a diagnosis of GOR or GORD were randomly collected. Data recorded for each patient included: specific diagnosis, presence of clinical symptoms suggestive of GOR/GORD, choice of treatment and if the diagnostic criteria according to ESPGHAN guidelines were met.

**Results** In total 100% of patients included in this study were diagnosed with GOR, rather than GORD despite the presence of what could be considered as “troublesome symptoms”. The two most frequently reported symptoms were poor weight gain n = 6 (10%) and irritability n = 40 (66%). Importantly, despite being “officially” diagnosed with GOR, 55 out of 60 children (91%) were commenced on anti-reflux medication (i.e. proton pump inhibitors or the H2 receptor blocker Ranitidine). All parents were provided with education and guidance.

**Conclusion** Our small study provides insight into current clinical practice in a district general hospital and highlights major insufficiency in the understanding and management of GOR/GORD. Despite diagnosing GOR the majority of infants are commenced on medical treatment. Active advice and teaching to healthcare professionals in the primary and secondary sector is required to improve the situation in the long term.

### G365(P) THE USE OF ANTIBIOTIC LINE LOCKS TO PREVENT CENTRAL VENOUS CATHETER-ASSOCIATED SEPSIS IN CHILDREN WITH INTESTINAL FAILURE ON LONG-TERM PARENTERAL NUTRITION

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**Background** Central venous catheter (CVC) associated sepsis is a common complication in children with intestinal failure on long-term parenteral nutrition, and is associated with significant morbidity and mortality.

We aimed to examine whether a strategy of using daily prophylactic antibiotic line locks (Gentamicin, Vancomycin or Amikacin) in children with intestinal failure on long-term parenteral nutrition, at high risk of CVC-associated sepsis, reduced rates of CVC-associated sepsis and antibiotic usage.

**Methods** Retrospective review of clinical notes of 12 children in whom antibiotic line locks have been used in the preceding five years, analysing rates of suspected and confirmed (blood culture or bacterial DNA positive) CVC-associated sepsis and in-patient antibiotic days, off and on antibiotic line locks using each child as their own historical control. Data was analysed using STATA version 10, using Cox proportional hazards survival models.

**Results** The twelve children studied received parenteral nutrition for a total of 8003 CVC days over the study period (5709 off lock, and 2294 on antibiotic line lock.) There were 99 episodes of suspected CVC-associated sepsis, and 43 episodes of confirmed (blood-culture/bacterial DNA positive) CVC-associated sepsis.

Children on antibiotic line locks had reduced rates of confirmed CVC-associated sepsis from 6.1 to 3.5 episodes per 1000 CVC days but this was not statistically significant ( $p = 0.2$ .) They also had reduced rates of suspected CVC-associated sepsis from 14.7 to 8.7 episodes per 1000 CVC days ( $p = 0.04$ .) Mean rates of in-patient antibiotic days were reduced on antibiotic locks; 148 compared with 89 days/per 1000 CVC days,  $p = 0.8$ .

Younger children were at higher risk of having an episode of suspected CVC associated sepsis than older children. Children under two years of age had significantly higher rates of gram-negative sepsis than children over two years of age ( $p = 0.034$ .) Given the high mortality associated with gram-negative sepsis this group may benefit the most from prophylactic antibiotic line locks

**Conclusion** Antibiotic line locks may reduce rates of CVC-associated sepsis and in-patient antibiotic days in children with intestinal failure on long-term parenteral nutrition. In view of the potential implications of these findings, further larger randomised studies are required to evaluate this approach.

### G366(P) IMPEDANCE MONITORING IN PAEDIATRIC GASTRO-OESOPHAGEAL REFLUX DISEASE: AN EVALUATION OF ITS USE AND CLINICAL VALUE

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We sought to evaluate the use of combined oesophageal multi-channel intraluminal impedance and pH (MII-pH) monitoring in the Paediatric department of a large tertiary hospital, and to determine whether there is added value of MII-pH monitoring beyond that of conventional pH monitoring.

We conducted a retrospective study of all paediatric patients who underwent MII-pH monitoring during a two year period (01/01/2012–31/12/2013) in a large tertiary hospital. We analysed the demographics, indications for investigation and

MII-pH results for each patient. We assessed the effect of anti-reflux treatment on MII-pH results and compared the relative contribution of MII data with pH data in each test.

96 studies were performed on 96 patients (mean age 3 years 8 months, range 2 months to 16 years, 55 male, 41 female). 57 studies produced interpretable results of greater than 20 h<sup>2</sup> duration. Respiratory symptoms were the most common indication for study. Patients who had taken anti-reflux medication at any point in the week prior to the study were significantly less likely to have an abnormal reflux index (RI;  $p < 0.05$ ) but were not less likely to have positive symptom correlation. When considering patients off treatment in the week prior to the study, patients with an abnormal RI were found to have a significantly higher frequency of both total reflux and acid reflux events compared to those with a normal RI ( $p < 0.001$ ), and were also more likely to have a positive correlation between their symptoms and impedance-detected reflux events ( $p < 0.01$ ). 19 patients had both an interpretable MII-pH study and a contemporaneous oesophageal biopsy; however, no significant correlation was seen between biopsy result and any of the MII-pH indices.

This study provides a comprehensive review of the use of MII-pH monitoring in a large tertiary centre. It reinforces previous literature findings that anti-reflux medication reduces oesophageal acid exposure, but does not necessarily reduce total reflux frequency or symptom correlation. The value added by MII-pH monitoring beyond that of conventional pH monitoring remains to be established. The results here support the use of RI (derived from pH monitoring) as an indicator for reflux disease in patients off treatment.

### G367(P) A CHUBBY CHILD: IS THIS A SIGN OF HEALTH OR MALNUTRITION?

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A fifteen month old British girl presented with severe anaemia, anasarca, dermatitis, hepatomegaly, hypo-pigmented hair, hair loss and global developmental delay. Initial examination revealed the patient to be of appropriate weight however her height was severely stunted. Blood tests revealed severe iron deficiency anaemia, Vitamin B12 deficiency, and various other vitamin/mineral deficiencies, low albumin and total protein levels. A dietary history revealed she was mainly breastfed from a strict vegan mother. A diagnosis of Kwashiorkor was made and management was commenced. There was no evidence of other pathology and safeguarding procedures were implemented to support the family.

This case illustrates a classical diagnosis commonly made in developing countries of the World as a result of malnutrition. It is not commonly encountered in the developed world due to a strong vigilant network of support for all children in the community and financial support for people with lower socioeconomic status in countries such as the UK.

Whilst Kwashiorkor's and other forms of protein-energy malnutrition are commonly encountered in developing countries, clinicians and other healthcare providers training in the West have often not encountered them in clinical practice. This depicts the importance of constant learning and maintaining a broader vision when assessing children.